

1. Write the combined gas law.
2. Define pressure.
3. A cylinder has 4.0 atm of pressure and a volume of 9.0 L. What will the pressure be if the volume is changed to 3.0 L?
4. A scuba tank has 112 atm of pressure at 22 deg C. What will the pressure be if it's cooled to -10 deg C?
5. What is the volume of a mole of gas at STP in L?

6. How many L of  $O_2$  at STP are needed to combust 14.8 g of Mg?

7. How many moles of gas are inside a cylinder with volume 5.0 L, pressure of 8.0 atm and temperature of 430 deg C?

8. How does one know when to use the ideal gas law rather than the combine and vice versa?

9. Name three ways to increase the pressure of a gas?

10. Explain with pictures AND words, how temperature can affect pressure.

11. In a sealed 3.00 L container, 4.65 mol of  $F_2$  (g) are combined with 0.775 mol S (s) to form  $SF_6$  (g). The temperature inside the container after the reaction is  $730^\circ\text{C}$ . What is the pressure inside the container?